

***Reinventing
Agricultural
Education
for the year 2020***



*Future Directions: A Vision for Idaho Secondary
Agricultural Science and Technology Education in the
Year 2020.*

State Division of Professional-Technical Education

Reinventing Agricultural Education for the year 2020

*Future Directions: A Vision for Idaho Secondary
Agricultural Science and Technology Education in the Year 2020*

JULY, 1999

A Strategic Report

A joint project conducted by:

- * The University of Idaho Department of Agricultural and Extension Education
- * The Idaho State Division of Vocational Education
- * The Idaho Vocational Agriculture Teachers Association

As part of a nationwide program sponsored by the W. K. Kellogg Foundation and administered by the National Council for Agricultural Education.

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PREFACE

*I*t is generally safe to say that at no time in recent history has education faced and had to deal with such rapid change. The changes in our world are global and affect world politics, international economics/trade, world health issues, (e.g. AIDS) environmental issues, and the world supply of safe and nutritious food. These changes and others affect the educational system in our nation and in our local communities.

We as a nation and state have pressing issues which must be addressed at least in part by our public schools. These issues include: poverty, illiteracy, violence, drugs, AIDS, single parent homes, homeless children, child care and preparing our young people to understand and participate in a democratic form of self-governance. Schools now face the task of addressing contemporary social issues as well as teaching traditional subjects.

The continuing questions for secondary agricultural education are then: Do we fit, and how do we fit in today's educational delivery system? In our mind there is no question that we do indeed fit. The larger question and not so easily answered is, how do we fit? In order to effectively resolve these questions, it will require exemplary and visionary leadership from all of us. We must charge ourselves with the resolve to chart our own future as we look forward to the year 2020 and all of the challenges it will bring.

*A*gricultural educators here in Idaho have done much to address the many changes which have occurred and are continuing today. Through the efforts of many, we have addressed issues: affecting high school graduation and college entrance requirements, science credit for agriculture courses, the development of a secondary agriculture curriculum outline and curriculum resources guides, program philosophy, and a tactical plan for agricultural education in Idaho.

With all of this the fact remains, confusion exists as to what we believe constitutes a "program" of agricultural education in an Idaho high school. Some confusion is understandable given we have changed to: numbered semester courses, science credit courses, and business management counting for consumer economics. The structure of an Idaho school day varies greatly and includes: six-period days, seven-period days, eight-period days, eight-period roll over and tri-semester schedules. Confusion is understandable given the changes in course content and reporting, along with science and economics credit given for some classes and a wide variety of school day structures. In all of this, we must maintain program integrity and not compromise the basic components of our program: classroom and laboratory instruction, the FFA organization and supervised agricultural experience (SAE).

Agricultural educators in Idaho have been challenged as we have dealt with these issues. We believe that it is safe to say that most teachers have struggled with structuring a local program which meets community needs, and in the larger sense, fits into the total framework of the educational delivery system at the local, state, national and global levels. The Department of Agricultural and Extension Education is charged with the preparation of teachers for agriculture programs both in the present and future. The department needs the dialogue, interaction, and consensus of the profession as it works with the future teachers and plans and delivers their professional course work. The State Division of Vocational Education will continue to utilize the consensus of all stakeholders as it provides overall leadership, guidance and direction dealing with approving and supporting programs.

This work is based in part on the 1992 report, *Future Directions: Idaho Secondary Agricultural Science and Technology Education*, which was a landmark work in planning for contemporary agricultural education by a select group of Idaho educators. Much of the 1992 report was retained and revised for this project.

The 1992 project committee included:

Jon Fabricius - Genesee
 Keith Hyatt - Payette
 Steve Wilder - Meridian
 Joe Blackstock - Kuna
 Alan Schoen - Rimrock
 Tom Woodland - Gooding
 Ron Thaemert - Buhl
 Marc Beitia - American Falls
 Kent Scott - Malad
 Mark Pratt - Firth
 Alan Heikkila - Highland
 Dave Ross - Teton
 Don Bird - West Jefferson
 Craig Clapier - Nampa
 Stuart Nesbitt - Weiser
 DeVere Burton - Boise
 Richard Ledington - Pocatello
 Lou Riesenbergs - Moscow
 John Mundt - Boise

In 1996, a three year national initiative *Reinventing Agricultural Education for the Year 2020* was organized. This initiative was sponsored by the W.K. Kellogg Foundation as a special project of the National FFA Foundation and was coordinated by the National Council for Agricultural Education (THE COUNCIL). Idaho was involved in this coordinated national effort as a member of an eleven state consortium and Idaho's project is part of the national strategic plan for agricultural education well into the next century.

An Idaho task force committee of 44 men and women met in October, 1997 in Twin Falls representing business and industry, education, legislative, agriculture and agricultural education professionals. This committee's mission was to identify a preferred future for Idaho agricultural education (vision), focus on a strategic mission and to identify a planning framework and priorities. The committee was charged with taking an internal look at Agricultural Science and Technology programs in Idaho and established the foundation for this current report.

A select writing committee was assembled in May, 1998 to orchestrate the Idaho 2020 plan as you see it represented here with several of the individuals having been involved with the 1992 project. The committee was endorsed and supported by the Idaho Vocational Agricultural Teachers Association (IVATA), the State Division of Vocational Education (SDVE) and the Department of Agricultural and Extension Education at the University of Idaho. There 1998 committee members were:

Larry Judd - Lapwai
Jim Summers - Westside
Alan Heikkila - Highland
Steve Hines - Castleford
Bill Dean - Emmett
Tom Woodland - Gooding
Alan Schoen - Rimrock
Gary Abercrombie - Aberdeen
Doug Pals - Moscow
John Mundt - Boise
Dean Langley - Boise

The report which follows is a composite of their individual and collective effort. It is intended that this report be utilized by: policy makers, administrators, agricultural educators, parents, members of advisory committees, and the industry of agriculture.

This "2020" project is comprised of a three part continuous process:

- Part I Establish a preferred future for agricultural education
- Part II Develop a strategic plan
- Part III Methods are explored and enacted



THE PRESENT SITUATION

Secondary Agricultural Science and Technology Program: Defined

A Secondary Agricultural Science and Technology program in Idaho is defined as an organized sequential program of instruction for secondary students that addresses agricultural services and many phases of production, processing, and distribution of agricultural products. The program includes basic principles of science, communications and math that are inherent to the curriculum and promote the concept of environmental awareness. Student leadership activities and supervised agricultural experience programs are considered to be integral parts of the program of instruction. Appropriate program outcomes include entry level employment in the agricultural industry or enrollment in post-secondary/university degree programs.

Idaho, An Agricultural State

The basic and most prominent industry in Idaho is agriculture. Agriculture and allied industries supply nearly half of Idaho's gross product and employ more than one-third of Idaho's labor force; while nationally, agriculture accounts for one in five jobs. Over 20 percent of the gross national product can be tied to the agricultural industry.

Idaho produces approximately 95 agricultural commodities which makes it a very diversified agricultural state. This intense and diverse production agricultural industry is supported by an equally diverse allied agribusiness industry; ranging from agricultural sales and service, processing and distribution to agricultural marketing,

management, mechanics, and engineering. The allied industries of agriculture are the major employers in the state.

Secondary Schools

Agricultural education programs are located in 89 of the public secondary schools in Idaho. These schools with agricultural education programs are classified by size as follows:

Secondary Schools with Agricultural Programs

Class of school of programs	Number
A-1	18
A-2	20
A-3	20
A-4	27

During the 1985-86 school year, there were approximately 3900 agricultural education students enrolled in and served by the 75 secondary schools that offered agricultural education programs at that time. A new curriculum was implemented in Idaho during the 1989-90 school year. The number of students enrolled in the program has increased each year since that time. Some of the increase is thought to be due to changes in the scheduling format in some schools. The cumulative effects of the two changes is evident in larger enrollments in programs across the state. The total enrollment in Agricultural Science and Technology in 1997-98 was 8,971 students enrolled in 89 programs. Other trends that are evident for the same period of time are decreases in the percentage of students who participate in SAE (supervised agricultural experience) programs and who are members of the FFA.



Secondary Agricultural Science and Technology Programs

The 89 secondary programs in Idaho are instructed by 108 Agricultural Science and Technology teachers. The programs are diverse in nature with the instructional emphasis focusing on community needs. Six schools specialize their curriculum toward natural resources, fish and wildlife management. The youth organization (FFA) and Supervised Agricultural Experience Programs (SAEP's) are integral components in most secondary programs. The backgrounds of students enrolled in the programs are broad and varied. The majority of the students enrolled do not live on commercial farms. They reside on small acreages or within the residential areas. Increasingly, younger students (seventh and eighth grades) are enrolling in Idaho programs.

Approximately forty-five (45) percent of the students participate in an SAE program. In recent years there has been an increase in the number of SAE placement and work experience programs.

Just over forty (40) percent of Agricultural Science and Technology students are members of the FFA and participate in a variety of activities offered by the youth organization at local, district, state, and national levels. Many more students benefit from FFA-related curriculum taught in the classroom.

Agricultural Enrollment/FFA

Membership 1986-98

Year	Enrollment	FFA Membership	% FFA Membership
1986	3904	3492	89.4
1987	4211	3365	79.9
1988	4663	3465	74.3
1989	4880	3451	70.7
1990	5296	3477	65.6
1991	5938	3258	54.8
1992	6883	3415	49.6
1993	6928	3715	53.6
1994	7353	3783	51.4
1995	7750	3756	48.4
1996	8045	3718	46.2
1997	8737	3859	44.1
1998	8971	3700	41.2



SECONDARY AGRICULTURAL EDUCATION

Program Vision, Mission and Philosophy

A. Vision

For the 21st century, agricultural education will be a vital part of every person's education and will be viewed as an asset to the community.

B. Mission

The mission of Agricultural Education is to prepare and support individuals for careers, build awareness and develop leadership for the food, fiber and natural resource system.

C. Philosophy

Secondary Agricultural Science and Technology Education is a community-based, multi-year program. It is a sequential, semester-based program which prepares students with competencies in the specialized areas of agricultural occupations. The program of instruction emphasizes applied academics with a hands-on practical instructional approach.

The curriculum consists of a core and includes units of instruction which are systematically sequenced so as to build on learned competencies. Upon completion of the program, a student should be able to enter a career in the food, fiber, or natural resources industry. Many students will elect to further their education at the post-secondary level, either at a vocational technical school or a four-year degree granting institution.

It is expected that students enrolled in Agricultural Science and Technology will have an approved Supervised Agriculture Experience Program (SAEP). SAEP's in realistic settings provide students the opportunity to put into practice those skills and competencies acquired in the traditional school setting. All students with the help of their instructor and their parents shall select an appropriate program related to the student's resources and interests. All students will be expected to keep neat and accurate records of their program. The instructor shall provide on-site instruction and supervision periodically throughout the year.

All students enrolled are encouraged to become members of the local, state, and national FFA organization. FFA is an integral component of instruction in secondary agricultural education. Agricultural Science and Technology/FFA includes instruction in leadership through many avenues such as: public speaking, parliamentary procedure, committee work, and community service activities. FFA career development events and other student participation and recognition activities are related to the Agricultural Science and Technology program.

Secondary Agricultural Education is a learning-by-doing concept. Meaningful SAE programs and FFA activities allow for application of classroom and laboratory knowledge and skills.

The program is a year-round educational concept, and extended service for instructors is a necessary requirement in order to meet the objectives of the program. The local program advisory committee is involved in local program operation, future planning and direction.

D. Program Goals That Impact Students

- Develop competencies and the basic background knowledge to become successful in food, fiber and natural resources occupations.
- Develop entrepreneurial, business, and management skills needed by students preparing to enter occupations in the food, fiber and natural resources system.
- Develop an understanding of agriculture's relationship to the environment and our natural resources.
- Develop the student's ability to think critically, solve problems, and function effectively in a competitive global society.
- Develop an understanding of career opportunities and the preparation needed to select, enter, and advance in a food, fiber and natural resources occupation.
- Develop career objectives, job-seeking, employability, and job-retention skills including cooperative team member attitudes.
- Develop the ability to advance in an occupation through a program of continuing education and life-long learning.
- Develop communication skills and abilities which are essential in any occupation.
- Develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities.

FUTURE DIRECTIONS: A VISION FOR AGRICULTURAL EDUCATION IN THE YEAR 2020

I. Partners

GOAL A **The Agricultural Education Program will effectively utilize partnerships to enhance local programs.**

Objective 1 All secondary agricultural science and technology programs will have active Advisory Committees by the year 2000.

Strategy 1. Recommend the continued use of the present Advisory Committee Handbook (Voc.Ed.#170 & 276) and stress the importance of following it's guidelines.

2. Hold a minimum of two meetings annually.

Objective 2 Capitalize on school and community resources including: administrators, counselors, other teachers, parents, alumni and students.

Strategy 1. Target key individuals for recognition including: awards, honorary degrees etc.

2. Utilize school personnel and parents to assist with program events to increase awareness and support.

Objective 3 Actively recruit local business and industry alliances.

Strategy 1. Utilize School to Work and other career development programs

2. Sponsor business internships for agricultural educators.

3. Establish a resource list of potential collaborative projects with business and industry.

4. Utilize business personnel to assist with program events to increase awareness and support.

5. Use industry contacts for equipment acquisition.



Objective 4	Establish strong relationships with agricultural organizations.
Strategy	<p>1. Sponsor joint activities with local/state agencies and organizations. Such groups could include: 4-H, Grange, Farm Bureau and Commodity groups.</p> <p>2. Use post secondary institutions to benefit all agricultural education programs.</p>
GOAL B	Legislators, business/industry leaders, school policy-makers, and government agencies will assist in funding, advising, and providing support for secondary agriculture programs.
Objective 1	Every agricultural education program will build strong positive relationships with local, state, and federal policy makers.
Strategy	1. Develop support for individuals who represent agricultural interests.

II. Image of Agriculture

GOAL A	Agricultural Education will project a positive image of agriculture through public relations and marketing.
Objective 1	Enhance the image of agriculture education as applied science, business, management and the integration of advanced technology.
Strategy	<p>1. Integrate the application of science, technology, and applied academics into the curriculum.</p> <p>2. Agriculture instructors work cooperatively with science and other faculty members within the school.</p> <p>3. Use the Internet, distance technology and other sources of technology to enhance instruction.</p> <p>4. Incorporate components of the agriculture curriculum to include: the global nature of agricultural production, processing, distribution and marketing.</p> <p>5. Incorporate components of the agriculture curriculum to include: business management principles and practices, utilization of agricultural record keeping and decision making.</p>

Objective 2 Publish Student Success Stories

Strategy

1. Incorporate student success stories into local and state media to include: newsletters, newspaper, television, and radio.
2. Distribute student success stories to state leaders.
3. Publish student accomplishments.

Objective 3 Increase the enrollment of secondary agricultural education students and FFA membership.

Strategy

1. Have FFA members assist in the recruitment of new students at the junior high or middle schools during the year.
2. Use Agriculture field days to familiarize elementary and junior high students with the local FFA program.

Objective 4 Secondary agricultural education programs will actively promote agriculture literacy throughout the community.

Strategy

1. Local agricultural education departments should work cooperatively in assisting and promoting the local Ag in the Classroom curriculum.
2. Use FFA members to discuss agriculture issues at local community organizations Chamber of Commerce, Kiwanis, Lions Club, etc.

Objective 5 At least one Idaho agriculture education instructor will be enrolled in the Leadership Idaho Agriculture class each year.

Strategy

Names of possible applicants will be solicited each year at mid-winter planning meeting and submitted to Leadership Idaho Agriculture for the application process.

III. Program Funding

GOAL Within a cooperative joint venture, the state of Idaho and local school districts shall support and fund Agricultural Science and Technology Programs to provide up-to-date equipment, supplies, resources, and salaries in such an exemplary manner that these programs will be models in secondary education of excellence and achievement in preparing and supporting students in personal growth, career awareness and leadership development for the food, fiber and natural resource system.

Objective 1 The state Division of Vocational Education in conjunction with the Idaho legislature shall provide supplementary funding to assist school districts with the added costs associated with operating a quality Agricultural Science and Technology Program.

Objective 2 Local school districts will continue to provide necessary funding to meet budgetary needs of the Agricultural Science and Technology Program.

Objective 3 Local school districts will continue to encourage and support Agricultural Science and Technology Programs to be involved in local, district, state, regional, and national activities and career development events as related to program content.

Objective 4 Local school districts will encourage Agricultural Science and Technology instructors to conduct effective summer programs which extend beyond the normal academic year.

Objective 5 Local school districts are encouraged to support Agricultural Science and Technology instructors in professional development and program improvement activities.

Objective 6 The State Division of Vocational Education shall support local programs by promoting available grant sources and encouraging local grant applications.

Objective 7 The State Agricultural Science and Technology Program Manager shall review and monitor Agricultural Science and Technology programs based on program standards and may reduce state funding.

IV. Technology in Agriculture

GOAL A All Agricultural Science and Technology programs will implement state of the art technology to include: best agricultural management practices, biotechnology and other technological advances that allow the food and fiber system to be ecologically sound in meeting world food and changing consumer demands.

Objective 1 All Idaho Agriculture science and technology programs have Internet access in their classroom.

Strategy 1. Assist districts in exploring avenues to adequately fund the support systems needed to access the Internet.

Objective 2 Students will be taught the importance of technology to include: biotechnology, genetic engineering and precision farming.

Strategy

1. Students will have available current research literature.
2. Use the agriculture industry to demonstrate technology available.
3. Inservice be provided to instructors on current technological advances.



V. Environmental Balance

GOAL A As production and resource use increase worldwide, pressures will grow everywhere to protect prime farmland, conserve soil, safeguard water quality and fisheries, use water more efficiently, protect remaining wildlife habitats and insure a safe and healthy food and fiber supply. Therefore, all programs will provide agriculture students with the necessary understanding to balance environmental and food safety issues with production needs and increased consumer demands.

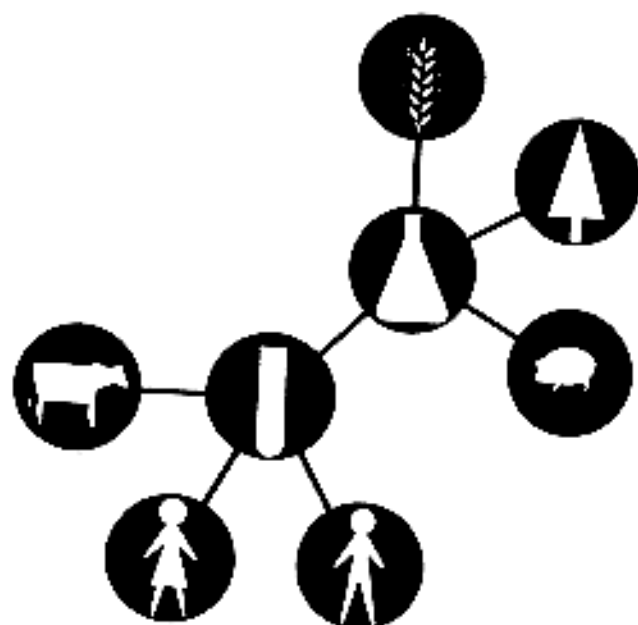
Objective 1 Balance environmental issues and food and fiber production with increasing consumer demand and populations.

Strategy

1. Infuse environmental issues into the agriculture education curriculum.
2. Encourage the use of environmental issues by participants in career development events such as agricultural issues, public speaking, extemporaneous speaking, agriculture science awards and proficiency awards.

3. Identify community resource people who could provide information regarding environmental and food safety issues.

4. Preservice and inservice activities are provided to address environmental and food safety issues.



VI. Global Agriculture

GOAL A All students enrolled in agricultural education will have an appreciation and understanding of the global perspective of the food, fiber and natural resource system.

Objective 1 Teachers use strategies to offer international understanding and experiences to agricultural education students.

Strategy

1. Five percent of Idaho secondary agricultural education teachers participate in a global experience each year.
2. Five percent of Idaho FFA Chapters serve as host sites for foreign exchange students each year.

Objective 2 Teachers enhance the curriculum to include units of instruction on the global impact of agricultural production, marketing, and resource allocation.

Strategy

1. International awareness is provided in preservice and inservice agricultural education programs.

Objective 3 Teachers provide agricultural education students with the understanding of skills necessary to compete in a global economy.

Strategy

1. Instructional materials and technology will be made available to Idaho agricultural science teachers through sessions at annual summer conferences.

Objective 4 Teachers promote the appreciation of cross-cultural experiences for agricultural education students.

Strategy

1. Educate teachers on web-site locations useful to allow students to research other cultures.
2. Provide teachers with information they can use to encourage agricultural education students to enroll in foreign language study.

VII. Educational Delivery

GOAL **All Agricultural Science and Technology Programs in Idaho will have access to and increase the use of current educational delivery technologies in the classroom and laboratory.**

Objective 1 All agriculture classrooms in Idaho have Internet hookups and access.

Objective 2 All agriculture classrooms in Idaho have access through telecommunications, to the most up-to-the-minute agriculture information available.

Objective 3 All agriculture programs, and/or FFA chapters have a home page on the Internet.

Objective 4 All agriculture instructors in Idaho will demonstrate technological competence as required by current state standards.

Objective 5 Agriculture programs in Idaho will implement distance learning technology as it becomes available.

Strategy 1. Agriculture instructors apply for competitive grant money to purchase current technology.

2. Idaho colleges and universities should provide professional development activities for teachers of agriculture in order to stay current with technology and it's application.

A PROCESS FOR LEARNING

It is recognized that secondary school students are a diverse group, varying in background, ability, aptitude, and aspiration. A wide variety of educational approaches are needed to accommodate those differences; no single prescription can be effective for everyone. Vocational education is an alternative that builds upon the general and academic education foundations and responds to diverse learning styles. Agricultural Science and Technology can be justified in the secondary curriculum on this basis alone.

The following aspects of vocational education characterize it as a learning process:

- Applied and small-group learning activities reinforce basic communication and interpersonal skills and promote their transfer to other settings.
- Individualized instruction.
- Abstract principles can be taught in concrete ways.
- Cooperative learning; students help each other.
- Academic course work is applied.

- Problem solving is incorporated; emphasis is on reasoning and critical thinking skills.
- Development of students' competence and confidence in their abilities by applying both knowledge and skills to the tasks at hand.
- Immediate feedback is given on how well students are performing.

Activities are interesting and relevant to students' lives, thus, a source of motivation.

Adapted from The Unfinished Agenda: The Role of Vocational Education in the High School. The National Commission on Secondary Vocational Education, United States Department of Education, Washington, DC.



MINIMUM PROGRAM STANDARDS

Overview of Present Situation:

Current program standards for Agriculture Science and Technology have been approved by the State Board for Vocational Education. Refer to the program standards section of this report for a detailed listing of established standards. Funding, legislation and the changing backgrounds of students entering agricultural education continues to bring dramatic changes to most programs. The prudent and balanced use of program standard guidelines can help maintain program quality while at the same time equipping students for successful careers.

Instruction in Agricultural Science and Technology is moving toward a competency-based curriculum and is designed to meet the needs of each community. Secondary agricultural education instructors are continually striving to upgrade their teaching methods, instructional materials and equipment. Instructors are showing increased interest in professional development and inservice activities; likewise, they are demonstrating an increased interest in the utilization of advisory committees for program planning and implementation.

Present State Division of Vocational Education Standards:

- * *The items marked with an asterisk are basic components of an approved program. Programs missing these components are considered nonapprovable.*

Administration

- * Vocational funding is administered and program fiscal records are maintained in accordance with state policies and guidelines.
- * A budget exists for the vocational program and the instructor is involved with its development.
- * A plan, approved by the school administrator(s), is available for vocational instructor(s) whose contracts include time beyond the normal academic year. The plan is consistent with program philosophy and goals. The time beyond the normal academic year supported with vocational education funds has a program of work with emphasis on program improvement and specialized student instruction.

Staff

- * Vocational instructor(s) hold(s) current vocational credentials.
- * Vocational instructor(s) participate in professional development activities.

Program of Study

- * Classes offered meet sequence of courses for the program area.
- * Current state approved competency-based curriculum for the program area is used. Substantive curriculum changes are approved by the State Division of Vocational Education.
- * A program advisory committee representative of business, labor, industry, minorities, and individuals in non-traditional occupations provides input for program improvement.
- * Leadership development is integral to the program as generally provided through vocational organizations.

A written program philosophy is compatible with the educational objectives of the school district.

Written program goals reflect the needs of community, business/industry, and students.

Curriculum supports reinforcement of basic skills and employability skills.

Resources support curriculum.

Realistic work experience is provided through laboratory, industry-related activities, or both.

A follow-up is conducted and used for program planning and improvement.

Equity and Access

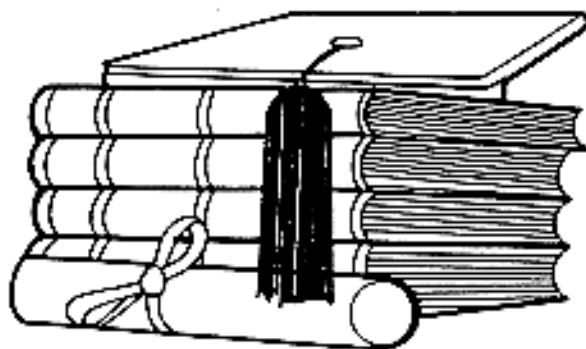
- * Opportunities are provided for all students to participate in all vocational programs.
- * Nondiscriminatory counseling, curriculum design, classroom procedures, and placement services are followed.

Student Services

- * Guidance and recruitment services are provided.

Instructor, in cooperation with school counselor, is involved with guidance and placement.

A plan for disadvantaged and/or handicapped students is used for assessment of interests, abilities, and special needs.



Facilities and Equipment

- * Students are provided with clean, safe classrooms/laboratories.
- * Enrollment meets capacity standards as mutually established and recorded in the State Division of Vocational Education.

Equipment is systematically updated, maintained, and inventoried.

Laboratory facilities and equipment support curriculum.

Recommendations:

1. For approval and full state vocational funding, the following are considered minimum standards for secondary agricultural education programs:
 - a. A part-time or full-time instructor teaching Agricultural Science and Technology shall hold a valid Idaho Standard Secondary Certificate endorsed for Agricultural Science and Technology/Vocational Agriculture and a science endorsement that supports the applied science curriculum.
 - b. The development of the Agricultural Science and Technology curriculum, and the relevant instruction thereof, shall be based on the needs of the students, community and consistent with the approved state curriculum.
 - c. The program shall include a youth organization (FFA) as an integral component and include a comprehensive plan of activities and objectives.
 - d. Each Agricultural Science and Technology student shall have a Supervised Agricultural Experience

Program (SAEP) coordinated with a practical sequence of events leading to the occupational objectives of the student.

- e. Facilities, equipment and instructional materials shall be of acceptable quality and in adequate quantities to facilitate the instruction relevant to current practices in the agricultural industry.
 - f. The program shall have an active advisory committee composed of members representing the various segments of agriculture in the community.
2. An approved Agricultural Science and Technology program shall be operated as a continuous 12-month instructional program.
 3. Any Agricultural Science and Technology program that does not include employment beyond the academic school year shall not be eligible for state vocational funding.
 4. The maximum effective student/ teacher ratio shall be 70:1. If the student/teacher ratio exceeds 70:1, consideration shall be given to employing another part-time or full-time instructor.
 5. All Agricultural Science and Technology instructors/FFA advisors shall submit FFA dues to the State office, in a timely manner, for each student who joins the FFA at the local level.

PROGRAM CURRICULUM AND CONTENT

Purpose of Curriculum:

Agricultural Science and Technology programs strive to meet the needs of the communities and students they serve. The content of the program curriculum should reflect the needs of not only the local population but the agricultural industry in general. The content of the curriculum should change with advancement in technology and approved practices throughout the industry.

The curriculum shall consist of a core of approved courses which are systematically sequenced to build on previously learned competencies. Components of the FFA and Supervised Agriculture Experience Programs shall be considered as integral parts of the Agriculture program. A student completing a program should have entry-level skills in agricultural related occupations or be prepared to pursue further education at a technical college or university level.

Trends and Concerns:

Through the implementation of the semesterized/trimesterized courses the enrollment in most Agricultural Science and Technology programs has increased. Some sequential continuity has been lost due to the open entry/open exit policies of many programs. The number of students enrolling in Agricultural Science and Technology programs have dramatically increased although the percentage of those students becoming actively involved in the FFA and SAE programs has decreased substantially (from nearly 90%) and has stabilized at approximately 45%.

The adoption of the new course structure in many programs has increased the diversity of program delivery. Current delivery systems include: 6 period, 7 period, and 8 period roll-over days on the semester basis, along with the 5 period day through the trimester system. The differences between the delivery systems causes a variety of differences among the programs due to the constraints and/or flexibility of the individual system. In addition there are differences in instructor certification within the profession. All instructors are certificated in agricultural education. Some are certificated in natural science, biological science and/or consumer economics. These additional certifications have allowed some instructors to teach agriculture courses not available to those certified only in agricultural education.

All public schools are faced with the fact that they must meet the needs of an increasingly diverse student population. Many types of students have been placed in Agricultural Science and Technology programs and instructors have adapted to meet different student needs. To accommodate the needs of diverse students including those students not seeking baccalaureate degrees, programs can incorporate strategies such as Tech Prep, distance learning, career pathways and school to work options.

Recommendations and Action Steps:

1. Program enrollment should fall within the guidelines of existing program standards facility.

Action step: Develop suggested student enrollment loads for the program facilities.

2. Program curriculum shall be a sequential based scope and sequence which prepares students with competencies in food, fiber and natural resource system careers.

Action Step: Develop recommended sequences for students to follow.

3. Career information, exploration, and planning should be components of the Secondary Agricultural Science and Technology curriculum.

Action Step: Inform students about career opportunities available in the agriculture industry as a part of the career pathway model

4. The FFA shall be an integral part of the Agricultural Science and Technology curriculum.

Action Step: The FFA shall be introduced and membership encouraged during the introductory courses of Agricultural Science and Technology. Active membership shall be promoted throughout the remainder of a complete program.

5. Human relations, social skills, job placement, leadership development, and interpersonal communication skills should have considerable emphasis in an

Agricultural Science and Technology curriculum.

Action Step: These skills and competencies shall be introduced and reinforced throughout the entire curriculum of a complete program.

6. All students shall receive instruction in SAE programs and record keeping.

Action Step: Each student, parent and/or guardian should be informed of the SAE requirement, explore alternatives, and develop a plan for an SAE program.

7. Although program content delivery and instructor certification will vary, comprehensive Agricultural Science and Technology programs shall strive to comply with the approved curriculum and program content.

Action Step: Teachers of comprehensive programs should include curriculum from the following areas of instruction: **animal science, agricultural mechanics, SAE, crop and soil science, agricultural business management, environmental and natural resources, and leadership development.**

8. In order to meet the needs of diverse program students, strategies should be taken to enable all students to be successful.

Action Step: Explore agriculture tech prep options for the Agricultural Science and Technology program along with distance learning, school to work and career pathway opportunities.

AGRICULTURAL SCIENCE AND TECHNOLOGY

VOCATIONALLY APPROVED COURSES

AG 0110	Introduction to Agricultural Education	AG 0410	Personal Skill Development
AG 0120	Introduction to the Agricultural Industry	AG 0460	Agribusiness Management and Marketing
AG 0130	Introduction to Agricultural Mechanics	AG 0470	Agricultural Sales
AG 0140	Introduction to the Livestock Industry	AG 0510	Botany/Plant and Soil Science
AG 0150	Introduction to the Agricultural Plant Industry	AG 0512	Botany/Science of Plant Growth and Development
AG 0210	Agricultural Welding	AG 0514	Botany/Horticulture Plant Science
AG 0220	Agricultural Power Technology	AG 0516	Botany/Forestry Science
AG 0221	Small Gasoline Engines	AG 0517	Botany/Advanced Forestry Science
AG 0222	Agricultural Power Technology/Large Engines	AG 0518	Botany/Range Science
AG 0225	Agricultural Systems/Electricity and Hydraulics	AG 0520	Ecology/Natural Resource Science
AG 0227	Agricultural Machinery	AG 0525	Ecology/Environmental Science
AG 0230	Agricultural Structures	AG 0530	Zoology/Animal Science
AG 0240	Agricultural Fabrication	AG 0532	Zoology/Science of Animal Nutrition
AG 0270	Introduction to Technology Support	AG 0534	Zoology/Science of Animal Reproduction
AG 0271	Technology Support - Networking Applications	AG 0536	Zoology/Fish and Wildlife Science
AG 0272	Technology Support - Telecom Applications	AG 0540	Agricultural Biotechnology
AG 0273	Technology Support - Video/Graphic Applications	AG 0550	Food Science
AG 0274	Technology Assistant Internship	AG 0560	Aquaculture Science
AG 0275	Technology Support - Software Applications	AG 0570	Equine Science
AG 0310	Applied Livestock Management	AG 0660	Agricultural Business and Economics
AG 0320	Applied Crop Management	AG 9800	Occupational and Career Experience
AG 0330	Landscape Design	AG 9900	Cooperative Education
AG 0335	Floral Design and Marketing		
AG 0340	Applied Greenhouse and Nursery Management		
AG 0350	Forestry and Wildlife Management		

AGRICULTURAL SCIENCE AND TECHNOLOGY

Curriculum Course Instructional Groupings

Introduction to Agricultural Science and Technology

AG 0110	Introduction to Agricultural Education
AG 0120	Introduction to the Agricultural Industry
AG 0130	Introduction to Agricultural Mechanics
AG 0140	Introduction to the Livestock Industry
AG 0150	Introduction to the Agricultural Plant Industry

Agricultural Leadership and Management

AG 0410	Personal Skill Development
AG 0460	Agribusiness Management and Marketing
AG 0470	Agricultural Sales
AG 9800	Occupational and Career Experience
AG 9900	Cooperative Education

Agricultural Mechanics

AG 0210	Agricultural Welding
AG 0220	Agricultural Power Technology
AG 0221	Small Gasoline Engines
AG 0222	Agricultural Power Technology/Large Engines
AG 0225	Agricultural Systems/Electricity and Hydraulics
AG 0227	Agricultural Machinery
AG 0230	Agricultural Structures
AG 0240	Agricultural Fabrication

Applied Biology

AG 0510	Botany/Plant and Soil Science
AG 0512	Botany/Science of Plant Growth and Development
AG 0514	Botany/Horticulture Plant Science
AG 0516	Botany/Forestry Science
AG 0517	Botany/Advanced Forestry Science
AG 0518	Botany/Range Science
AG 0520	Ecology/Natural Resource Science
AG 0525	Ecology/Environmental Science

AG 0530	Zoology/Animal Science
AG 0532	Zoology/Science of Animal Nutrition
AG 0534	Zoology/Science of Animal Reproduction
AG 0536	Zoology/Fish and Wildlife Science
AG 0540	Agricultural Biotechnology
AG 0550	Food Science
AG 0560	Aquaculture Science
AG 0570	Equine Science

Technology Support

AG 0270	Introduction to Technology Support
AG 0271	Technology Support - Networking Applications
AG 0272	Technology Support - Telecom Applications
AG 0273	Technology Support - Video/Graphic Applications
AG 0274	Technology Assistant Internship
AG 0275	Technology Support - Software Applications

Applied Agricultural Management

AG 0310	Applied Livestock Management
AG 0320	Applied Crop Management
AG 0330	Landscape Design
AG 0335	Floral Design and Marketing
AG 0340	Applied Greenhouse and Nursery Management
AG 0350	Forestry and Wildlife Management Consumer Economics
AG 0660	Agricultural Business and Economics

Capstone Courses - Those in which the Occupational Competency Attainment will be measured. Capstone courses will vary among programs but may include any course above the 100 series. Capstone courses are those courses that are taken during the 11th and 12th grade by program completers. The content of such courses will be of an advanced nature.

SUGGESTED MODELS FOR SCOPE AND SEQUENCE:

All students should be required to take one of the following: AG 110, 120, or 410 as a prerequisite to any other course. A comprehensive program scope and sequence will include the areas of **Animal Science, Plant and Soil Science, Agricultural Mechanization, Agribusiness Management, Natural Resource Management, FFA and SAEP**. The following tracks are provided as guidelines for the program areas of Agricultural Mechanization, Applied Science, Applied Management, Natural Resource Management and Tech Prep. The total program scope should be systematically sequenced to provide continuity.

Below are suggested tracks that may be used in determining a program's Scope and Sequence. No more than three of the five tracks should be selected for a given program with one instructor. Course numbers and their corresponding prerequisites (courses in parenthesis are prerequisites) are listed for each suggested track.

<u>Ag Mech</u>	<u>Applied Mgmt</u>	<u>Applied Science</u>	<u>Natural Resource</u>
Ag 110	Ag 110	Ag 110	Ag 110
Ag 130 (110)	Ag 140 (110)	Ag 410	Ag 410
Ag 140 (110)	Ag 150 (110)	Ag 530 (110)	Ag 150/510 (110)
Ag 150 (110)	Ag 310 (140)	Ag 510 (110)	Ag 140/530 (110)
Ag 221 (110)	Ag 320 (150)	Ag 512 (510)	Ag 520 (150/510)
Ag 210 (130)	Ag 340 (150)	Ag 514 (510)	Ag 350/516(150/510)
Ag 240 (210)	Ag 350 (110)	Ag 532/534 (530)	Ag 518 (150/510)
Ag 410 open	Ag 460/660 (seq)	Ag 536 (530)	Ag 536 (530)
Ag 9800 (240&410)	Ag 9800 (seq)	Ag 9800 (410& Seq)	Ag 9800 (410&Seq)

Tech Prep Options

	<u>Tech Prep Welding</u>	<u>Tech Prep Engine Mechanics</u>	<u>Tech Prep Horticulture</u>	<u>Tech Prep General Ag</u>
				Ag 410
				Ag 221 (410)
				Ag 210 (410)
				Ag 240 (210)
11th grade	Ag 410	Ag. 410	Ag 410	Ag 222 (221)
	Ag 220	Ag. 220	Ag 150	Ag 510 (410)
12th grade	Ag 210	Ag. 221	Ag 330	Ag 512 (510)
	Ag 240	Ag. 222	Ag 340	Ag 514 (512)
				Ag 340 (514)

SUGGESTED DELIVERY SCHEDULES:

Below are sample program schedules for different delivery systems. They are intended to be used as guidelines only. The flexibility of the schedule should be based on program needs and the discretion of the instructor.

Semesterized - 7 period day or 8 period rollover model (block)

Example 1 combines agricultural mechanics and applied management tracks

Period	1st semester	2nd semester
1	X	X
2 Freshman	110	140
3 Sophomores	150	130
4 Juniors	221	210
5 Seniors	240	460
6 Related Courses	310	320
7 Related Courses	340 or 350	410

Example 2 combines agricultural mechanics and applied science tracks

Period	1st semester	2nd semester
1	X	X
2 Freshman	110	130
3 Sophomores	510	530
4 Junior	221	210
5 Seniors	240	460
6 Related Courses	532 or 534	512 or 514
7 Related Courses	536 or 51	410

Trimester 5 period day model

Example 1 combines agricultural mechanics and applied management

Period	1st Trimester	2nd Trimester	3rd Trimester
1 Freshman	120	140	340
2 Sophomores	150	320	310
3 Juniors	130	221	210
4 Seniors	240	230	660

Example 2 combines agricultural mechanics and applied science

Period	1st Trimester	2nd Trimester	3rd Trimester
1 Freshman	110	410	130
2 Sophomores	530	221	510
3 Juniors	514	210	532/534
4 Seniors	536	240	240
5 Optional	9800	9800	9800

Semesterized - 6 period day

Example 1 combines agricultural mechanics and applied management tracks

Period	1st semester	2nd semester
1	X	X
2 Freshman	110	130
3 Sophomores	140	150
4 Juniors	210	221
5 Seniors	240	310 or 320
6 Prerequisite	460	410

Example 2 combines agricultural mechanics and applied science tracks

Period	1st semester	2nd semester
1	X	X
2 Freshman	110	130
3 Sophomore	510	530
4 Juniors	536	210
5 Seniors	240	460
6 Prerequisite	532 or 534	410

IDAHO MIDDLE/JUNIOR HIGH SCHOOL AGRICULTURAL EDUCATION

Exploratory classes in Agricultural Science and Technology are taught in many Idaho schools to seventh and eighth grade students. There is no uniform, approved state curriculum for students who participate in these classes. In some schools, the introductory courses for the high school programs are used; in others, teachers choose the curriculum that they believe to be appropriate for this group of students. No state funding is available to support these classes. However, one class period per day can be devoted to exploratory or other courses without losing state program funds.

The National FFA constitution allows students who are enrolled in 7th/8th grade agricultural education classes to become dues paying FFA members (6th grade membership is also under consideration at this time). These students are allowed to join the FFA in Idaho, but do not enjoy all membership privileges accorded to high school members. The following restrictions apply to middle/junior high school FFA members:

1. They are not eligible to attend and participate in state level career development events or leadership activities.
2. They may not earn points toward state degrees and awards until their 9th grade year in school.
3. FFA districts may determine locally those activities in which middle/junior high school FFA members are eligible to participate.

Below are potential units and topics that would be appropriate for middle/junior high school (it is important to not duplicate what is taught at the middle/junior high school at the high school level):

Introduction to Agricultural Science and Technology

- Understanding the Importance of Agriculture

- Understanding the Agricultural Science and Technology Program

Dynamic Careers in Agriculture

- Finding a Career for Yourself in Agriculture

- Preparing for Agri-business Employment

- Examining Specialized Jobs in Agriculture

- Exploring Careers with Supervised Occupational Experience Programs

Leadership

- Becoming a Leader

- Using Parliamentary Procedure

- Communicating and Interacting with Others

- Preparation and Delivery of Speeches and Demonstrations

IDAHO MIDDLE/JUNIOR HIGH SCHOOL AGRICULTURAL EDUCATION

Backyard Farming

- Locating and Planning a Garden
- Gardening Tools and Equipment
- Preparing and Planting the Garden
- Managing the Growing Garden
- Troubleshooting Garden Problems

Lawn Maintenance and Management

- Turf Plant Management Skills
- Lawn Equipment/Maintenance Tools
- Operating and Maintaining Lawnmowers
- Equipment Safety Practices

Small Animal Care

- Having Pets as Companions
- Identifying Breeds of Pets
- Grooming and Feeding Pets
- Keeping Your Pet Healthy

Personal Dollars and Sense

- Valuing Our Possessions
- Using Your Money Wisely
- Checkbook Record Keeping
- Analyzing Your Paycheck



FUNDING OF APPROVED PROGRAMS

Overview:

The State Division of Vocational Education provides funding to assist school districts with the added cost associated with offering approved Agricultural Science and Technology programs. The funding is awarded based on the number of approved courses offered during the school day. Funding is not dependent on student enrollment in an individual course or program. This funding is prorated for programs with more or fewer approved courses. School districts are expected to provide local support for the basic program expenditures, (e.g. regular salary and benefits, facilities, textbooks, and consumable supplies). State vocational reimbursement can only be used for the following: extended contract, professional development, travel, instructional supplies, and equipment. Additional support by the district to update equipment, supplies, and facilities will contribute to a modern, quality program. The regular program funding for the 1998-99 school year is outlined below:

Full-Time Program Units Estimated
Funding*
Equivalent

.80 - 1.00	1.0	\$10,260
.60 - .79	.8	8,208
.40 - .59	.6	6,156
.20 - .39	.4	4,104

* Based on a full comprehensive program; specialized programs may not be funded at these levels

During 1991, the Idaho legislature approved the expenditure of state funds to replace federal funds lost to regular vocational programs. Therefore, the regular vocational program formula is funded entirely with state dollars. Assuming the state economy remains stable, then this should translate to greater stability for regular program funding.

The State Division of Vocational Education also receives federal funding through the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 and other subsequent federal legislation. These funds target special population students and the improvement of existing vocational programs. School districts qualify for federal funding based on a formula specified in the Act. A school district and/or consortium must submit a grant application to access federal funding. Contact Shirley Silver, Federal Projects Coordinator, State Division of Vocational Education, at 334-3216 for more information concerning the grant process.

Additional funding or donations of surplus equipment is available periodically through the Idaho Vocational Education Foundation. Contact Dick Winn, IVEF Coordinator, at 334-3216 for more information.

FUNDING OF APPROVED PROGRAMS

Recommendations:

1. *Minimum* program standards be verified for continuation of a funded program.
2. *Individual* Agricultural Science and Technology program compliance with minimum program standards should be reviewed at least every five years by the Agriculture Program Supervisor with the Idaho Division of Vocational Education. An option would be to develop a district review committee which would provide a vehicle for local evaluation and program improvement.
3. *Programs* not in compliance with minimum standards shall be placed on conditional approval or probationary status, followed by loss of program funding if improvement is not evident within one year.
4. *Maintain* the regular program funding for Secondary Agricultural Science and Technology programs. As available, funding be increased to address new initiatives or priorities.
5. *Efforts* be made to suggest appropriate uses of federal funds in regular vocational programs.
6. *Consider* development of a pilot program initiative to provide additional competitive funding to develop model programs and stimulate new and innovative efforts in Secondary Agricultural Science and Technology programs.
7. *Alternative* funding be identified and/or developed to address the needs of Secondary Agricultural Science and Technology programs.



SUPERVISED AGRICULTURAL EXPERIENCE AND SUMMER PROGRAMS

Definition: Supervised Agricultural Experience Program (SAEP)

A supervised Agricultural Experience Program consists of all the planned practical activities in which the student develops and applies agricultural knowledge and skills. Students participating in SAEP's are supervised by teachers, parents, employers, or other adults who assist them in achieving their educational objectives. The competencies to be developed should be determined cooperatively by the student, teacher, parents and employer.

Supervised Agricultural Experience Programs are the planned application and development of agricultural competencies in a learning environment as closely related to the real conditions of the occupation as can be provided. The total of the student's experiences comprise a program. Year-round long-range Supervised Agricultural Experience Programs are critical in the development of entry level competencies in the agricultural industry.

Summer Program:

Summer programs at present are used for SAEP on-site supervision, professional improvement, preparation of curriculum materials, facility maintenance and organization, assistance at county fairs, etc. Some programs are not requiring students to have a summer Supervised Agricultural Experience Programs (SAEP's) while others require students to have SAEP's year-round.

Trends:

*I*n the past, many SAEP's consisted of production enterprises; however, in recent years, there has been an increase in the number of placement and agricultural experience programs. Secondary agricultural education programs can offer students credit for summer SAEP's. There is an increased emphasis in agriculture science to ensure that what is taught in the classroom can be tied to real situations experienced by students. Applied Science must be practiced in the appropriate setting; reinforced, supervised and organized in a sequential manner.

*B*ecause of the changes in student populations and the need to experience realistic situations many of the practical applications of agriculture occur in the summer months. This cannot be duplicated in the classroom or laboratory. The agricultural science instructor must increasingly use agriculture related businesses to reinforce the competencies taught in the classroom and laboratory. The application of objectives for many problems taught must be completed in practical settings and in agriculturally related industries/businesses. The instructor and the agricultural industry/business need to be involved in the learning process of the student. The recent trend is to maintain existing summer programs.

RECOMMENDATIONS:

1. Agricultural science instructors should:
 - a. Develop comprehensive summer program plans including the scope and sequence of individual student summer program plans.
 - b. Develop an evaluation process of the SAEP designed to meet the needs of the local education agency.
 - c. Attend workshops or seminars to aid in developing and monitoring SAEP's.
 - d. Supervise and encourage student participation in county and state fairs.
 - e. Cooperate with agricultural agencies, industries, and business in planning summer educational programs.
 - f. Conduct leadership training for students and supervise FFA activities.
 - g. Attend educational courses, field days, conferences and inservice activities to keep pace with new technology.
 - h. Use the Summer Weekly Report Forms and keep administration and other school staff aware of summer program progress.
 - i. Be employed for at least 40 days beyond the normal school year.
2. Students meeting established criteria should be granted high school credit for completion of a Supervised Agricultural Experience Program for the summer months.
 - a. Students enrolled in SAEP's should have the opportunity to develop skills in the areas of their interest.
 - b. Supervision of these programs is to be provided by the agricultural science instructor.
 - c. Definite goals and learning objectives shall be established by students, agricultural science instructors, parents, and cooperating agribusiness employers.
 - d. In cooperation with parents and/or cooperating employers, the agricultural science instructor shall monitor and record the progress of the student toward objectives.
 - e. Individualized and group instruction shall take place on farms, in agribusiness firms, in group meetings, on tours, and during field days.
 - f. Guidelines for credit should be established by the local school district.
3. Agricultural science should reflect instruction in those areas that are beneficial to the SAEP.
4. Review current SAEP record book.
5. Alternative SAEP activities should be identified that are appropriate for science based instruction.

THE NATIONAL FFA ORGANIZATION

Youth Group for Students Enrolled in Agricultural Science and Technology Programs

Overview of Present Situation:

FFA is an essential and integral component of Agricultural Science and Technology programs in the state of Idaho. It is an intra-curricular instructional strategy used to develop leadership, community awareness, responsibility, and a cooperative work ethic. FFA is a vehicle for positive and challenging interaction in the personal growth of the individual member. FFA is also an effective tool in recruiting students into Agricultural Science and Technology programs.

Trends:

Total membership has stabilized in the state, but percentage membership compared to classroom enrollment has decreased significantly. This is due in part to the semesterized open entry/open exit delivery system adopted by many Agricultural Science and Technology programs in the state.

Recommendations for the Future:

1. FFA should continue to be a vehicle for personal growth in areas of leadership, community responsibility, cooperative work ethic, positive competitive interaction, and environmental awareness.
2. FFA should continue to be used as an effective recruitment tool for Agricultural Science and Technology programs.
3. FFA activities should provide positive public relations.
4. FFA should continue to recognize deserving students through the FFA awards program.
5. FFA should emphasize the learning by doing concept.
6. FFA should continue to encourage participation in relevant local, district, state, and national activities and contests.
7. FFA should involve community resource persons (parents, alumni, etc.) whenever practical.
8. Each FFA chapter should have a comprehensive written plan of activities and objectives.
9. Increased FFA membership should be promoted by statewide recruitment programs. State award programs should be designed and implemented to recognize chapters which increase membership.

INSTRUCTOR RECRUITMENT AND PREPARATION

Overview of Present Situation:

In order to maintain and enhance secondary agricultural education programs, it is imperative that the best possible candidates be recruited and educated to teach agricultural science and technology. Most of the current agricultural science and technology instructors have completed a secondary vocational agriculture program. All secondary agricultural education instructors have completed bachelor degree programs in agricultural education or other related science fields and are certificated. Some Agricultural Science and Technology programs offer students graduation credit and college entrance credit in natural science and/or consumer economics. The University of Idaho provides the only state-approved preservice program in agricultural education.

Trends:

Recently at the national and state levels, there has been a shortage of secondary agricultural instructors. The curriculum content for agricultural education majors will continue to be broad based. Inservice education for secondary agricultural instructors has increased in recent years. The University of Idaho has made inservice courses more accessible to agricultural instructors throughout the state.

Recommendations:

1. Recruit quality students majoring in agricultural education. Students who are outstanding FFA members should be encouraged to teach Agricultural Science and Technology.
2. Continue to upgrade and expand the agricultural education curriculum as needed to meet the needs of Agricultural Science and Technology instructors.
3. Agricultural Science and Technology instructors must have an active role in determining which inservice courses are offered.
4. The University of Idaho, other colleges and universities, and industry continue to bring practical inservice courses to the Agricultural Science and Technology instructors.
5. University courses teaching FFA and SAEP subjects need increasing emphasis on meeting the preservice needs of a diverse student teacher population. Many aspiring teachers have not had exposure and/or experience with these important components of strong Agricultural Science and Technology programs. Teacher mentoring and other methods of establishing new teachers successfully should be a supported priority.
6. Since several courses taught in the agriculture education curriculum are science and consumer economics based, teachers need to work towards certification in these areas.
7. College of agriculture courses accepted for certification in the areas of natural science
8. Agricultural education leaders should establish effective and consistent methods to certify teachers.

IMAGE AND COMMUNICATION

Overview:

The Agricultural Science and Technology programs in Idaho have provided a positive learning environment for nearly 70 years. Secondary agricultural education has enabled students to acquire the basic skills and competencies needed for success in an increasingly complex world of work. The success of Agriculture Science and Technology programs in Idaho has been the result of the accomplishments of these students.

Trends:

Agricultural Science and Technology program have adapted to many variables. The structure of an Idaho school day varies greatly and includes: six-period days, seven-period days, eight-period days, block and trimester schedules. Given the additional variables of changing facility requirements, new technology, greenhouse and laboratory based instruction, computer assisted instruction as well as serving an increasingly diverse population, we must maintain program integrity and not compromise the basic components of our program: classroom and laboratory instruction, the FFA, and SAE.

Recommendations:

1. Identify means of enhancing the image of a career in agriculture.
2. Inform all educators and the community about the contributions of secondary agricultural education to the total education of the student.
3. Promote efforts to inform students, community and school personnel that a program of Agricultural Science and Technology prepares students in agribusiness, technology, science and production agriculture. Both FFA and SAE are strong components of the agricultural education curriculum and participation in SAE and membership in the FFA should be strongly encouraged.
4. Promote the positive image of secondary agricultural education, by bringing programs in compliance with minimum standards in the areas of curriculum, FFA and SAE.
5. Encourage communication among the State Division of Vocational Education, local school administration, University of Idaho Agricultural Education staff and agricultural instructors on policy changes and reporting procedures.
6. Effectively communicate via the local media, state vocational publications, FFA and agricultural education publications to portray a positive image of what is happening in Agricultural Science and Technology programs.

GUIDELINES FOR IDAHO SECONDARY AGRICULTURAL EDUCATION PROGRAMS

(Approved as State Division program guidelines on 5/3/99)

- I *Philosophy and Objectives.* Secondary Agricultural Science and Technology Education is a community-based, multi-year program. It is a sequential, semester-based program which prepares students with competencies in specialized areas of agricultural occupations. The program of instruction emphasizes applied academics with a hands-on practical instructional approach.

The curriculum consists of a core and includes units of instruction which are systematically sequenced so as to build on learned competencies. Based on school and community needs, the individual program curriculum may be more comprehensive in nature or may emphasize one or more selected areas or "tracks" such as ornamental horticulture, forestry, natural resources and fish and wildlife management.

Upon completion of the program, a student should be able to enter a career in the food, fiber, or natural resources industry. Many students will elect to further their education at the post-secondary level, either at a vocational technical school or a four-year degree granting institution.

II *Instructional Programs.*

- a. A written statement of philosophy for the vocational education in agricultural science and technology shall be on file and shall be in harmony with the philosophy of the total school.
- b. The department's annual and long range program plans, including goals objectives, and activities, shall be on file in the department and with the administration.
- c. The instructional program shall be reviewed and modified in light of local, state, and national labor information available.
- d. Validated competencies, needed by students for entry and advancement in employment, shall be utilized in developing objectives for the instructional program in alignment with state approved agricultural science and technology curriculum.
- e. The instructional program shall contain the necessary balance of class time, laboratory work, field trips, occupational experience, and summer activities for supervised projects to adequately prepare students for employment and advanced educational programs.
- f. The instructional program shall be articulated with other local secondary, post-secondary, and four-year programs of education in agriculture/agribusiness.

- g. Written courses of study (scope and sequence of instruction) shall be based on validated competencies and revised annually. Student competencies shall be performance based.
- h. Provisions shall be made to accommodate students with physical handicaps or other special educational needs.
- i. Community resources , facilities, and industries shall be identified and utilized to enhance the quality of the instructional program.
- j. Lesson plans are developed that clearly state instructional objectives in measurable performance terms, activities, and resources to be utilized during instruction.
- k. Modern and technically accurate instructional materials and textbooks shall be available in sufficient quantities and utilized in the instructional program.
- l. Students shall have access to current information including agricultural publications.
- m. Instruction in safety shall be provided in advance of any shop or laboratory work.
- n. Transportation shall be provided for students on all planned off campus educational activities.

III Supervised Agricultural Experience (SAE).

- i. Students shall be engaged in supervised experience programs that are related to the occupational objective and are appropriate in light of their ability and place of residence.
- b. A systematic plan shall be utilized to select, develop, and evaluate training stations that assist students in obtaining desired occupational competencies.
- c. The instructor , student, parent and/or employer shall cooperatively develop a formal training agreement and training plans which shall include essential competencies and experience that are to be acquired during the program.
- d. Students participating in supervised experience programs shall be employed in accordance with all applicable federal and state labor laws.
- e. The instructor shall provide effective coordination , supervision, and occupational guidance to students engaged in SAE programs.
- f. Agriculture/Agribusiness instructors shall have at least one (1) class preparation period and/or one (1) period of supervision per instructional day.
- g. Each instructor responsible for the supervision of occupational experience programs shall maintain adequate records to determine student progress and assist in placement.

- h. Each student engaged in a supervised occupational experience program shall maintain accurate an up-to-date records including financial transactions and competencies to be acquired during the program.
- i. Students shall receive (school) credit for all supervised occupational employment (SAE) programs that are conducted during regular school hours. Students shall also receive credit for summertime SAE experience conducted beyond the normal school year.

Leadership Development.

- a. Leadership development activities shall be made an integral part of the instructional program.
- b. All secondary agricultural science and technology students shall be provided opportunity to join the national FFA organization (or other equivalent organization/activity) and participate in district, state and national activities.

V Student Recruitment, Enrollment, and Counseling.

- a. Enrollment policies shall permit flexible entry and exit from the agricultural science and technology program with selected prerequisite classes as required.
- b. Prospective students and their parents shall have access to program information and objectives prior to their enrollment in the program.
- c. An individual file shall be maintained on all continuing students and shall contain current information on occupational objectives, supervised occupational experience programs, FFA activities, completed course work and other necessary information.
- d. The agricultural science and technology instructor shall advise each student as necessary on a regular basis and shall assist those with special educational needs to obtain additional assistance from qualified school personnel.

VI Public Relations.

- a. Through an effective public relations program, the faculty, students, parents, employers and advisory committee members will be made aware of the educational objectives, major activities and accomplishments of the agricultural science and technology program.
- b. The instructor shall establish and maintain cooperative working relations with leaders in related industries, organizations and agencies.
- c. The instructor shall, in cooperation with school counselors, maintain current awareness and information concerning the agricultural science and technology curriculum and the necessary scheduling of all students in the program.

VII Facilities and Equipment.

- a. Classrooms, shops and laboratory stations shall be adequate for the number of students enrolled.
- b. The equipment in shops and laboratory stations shall replicate that found in the occupations for which training is provided.
- c. Facilities and equipment shall meet all current state and federal safety regulations.
- d. Classrooms, laboratories, supplies and equipment shall be maintained in an orderly , safe and attractive condition.
- e. Facilities and equipment shall be arranged with consideration given to effective teaching, class control, safety and economy.
- f. A department office shall be located to provide optimum supervision of activities.
- g. Maintenance and service records of equipment shall be on file and available to school maintenance personnel.

VIII Staffing.

- a. Instructors shall possess the required certification necessary to prepare students for entry level employment or for advanced educational programs.
- b. Instructors shall be sensitive to the needs of students and shall recognize and make provisions for individual students differences within the instructional program.
- c. Sufficient extended employment shall be provided to assure guidance and effective supervision of students for their projects and activities. A twelve (12) month contract is recommended.
- d. Instructors shall submit to the administration a planned program of activities to be assumed during the summer months.
- e. Instructors shall submit to the administration a weekly report of summer activities while under contract
- f. Instructors shall be actively involved in professional teacher organizations which are supported by agricultural educators in the state in continuing in-service development programs.
- g. The recommended assignment per instructor shall be twenty-five (25) hours of classroom instructional time, five (5) hours of student advising, and (10) hours of supervision and preparation per week.
- h. The department shall have access to secretarial services.

IX Administration and Supervision.

- ii The agricultural science and technology program shall be an integral part of the local district plan for vocational education.
- b. Representatives of local, area and state education agencies shall participate in planning the program of instruction and kept informed of the progress made.
- c. An agriculture/agribusiness advisory committee shall be formed and shall meet at least twice a year to help determine program needs and assist in promotion, and evaluation of the program.
- d. The advisory committee will function under written guidelines which specify the length of a member's term, responsibilities and operational procedures. Refer to the Handbook for Local Advisory Committees available from the State Division.

X Finance.

- ii The instructional program shall be supported by an annual board-approved budget that considers program needs and the number of students enrolled.
- b. Appropriate and accurate financial records shall be maintained. Administration and/or board-approved policies shall be provided for the receipt and disbursement of funds.
- c. The State Division will fund approved programs based on the FTE (full time equivalent) and calculated program units that are required to support state approved agricultural science and technology curriculum. This finding is a reimbursement to the local educational agency for the targeted equivalent of 30% of the added costs of the program.

XI Placement.

- ii The instructor, in cooperation with the school counselor, shall assist in the placement and follow-up of all students. A file of placement and employment records shall be maintained which shall include student portfolio information as required.

XII Evaluation.

- ii The instructor, local administration and appropriate state education agency staff member(s) shall meet to formally examine and evaluate the agricultural science and technology program.
- b. The instructor, local administration and local advisory committee shall meet on an annual basis to examine and evaluate the agricultural science and technology program.
- c. In conjunction with the State Division, one (1) and five (5) year follow-up surveys of all former students shall be made to determine their current occupational or educational status.
- d. Results obtained from program evaluations shall be used to promote, develop, and improve the instructional program.

XIII Guidelines Specific to Agricultural Production and Mechanics Emphasis Programs.

a. Instructional Program Capacity and Balance.

- i For classroom, laboratory, and shop activities, the recommended class size shall be fifteen (15) to twenty-two (22) students. For students with special needs, the limit shall be ten (10) per class. The instructor shall provide input regarding selection of students with special needs.
- ii The instructor shall provide orientation sessions for students enrolled in all agricultural science courses. Included shall be such items as course requirements and content.
- iii Instructional materials shall be reviewed and upgraded annually.
- iv Programs shall possess proper balance of classroom - laboratory activities and work (Classroom = 50%, Laboratory = 50% of total agriculture education offered).

b. Supervised Occupational Experience.

- i The instructor shall conduct on-site supervisory visits based on student need. Continuing students should be visited annually.

c. Staffing.

- i Instructors certified to teach in these programs shall have had preparation in agricultural economics and business analysis, animal science, plant and soil science, agricultural mechanics, and leadership development.



d. Facilities and Equipment.

- i Minimum space devoted to agricultural instruction shall meet suggested guidelines*. (Figures below are based on twenty (20) students per session.)

Instructional Area	One Instructor	Additional Per Added Instructor Unit
Office	120 sq ft	60 - 120 sq ft
Classroom	900 sq ft	900 sq ft
Shop/Laboratory	3200 sq ft	400 sq ft
(With 2 Entrances)	14' high x 20' wide	14' high x 12' wide
Land Laboratory	As Needed	As Needed
Greenhouse	800 sq ft	400 sq ft
Storage -		
Classroom	160 sq ft	40 sq ft
Shop	320 sq ft	100 sq ft
Fenced Outside Storage	3200 sq ft	

- intended for general planning purposes only; refer to Division "Matrix" project publication for specific applications and examples



- ii Lighting and ventilation shall be adequate and noise levels shall be minimized to provide for a safe working environment.
 - iii Facilities shall be designed to provide teaching stations that permit a wide variety of learning experiences within the agricultural science curriculum.
 - iv Facilities shall be designed to provide proper supervision of all teaching and student work stations.
 - v A telephone shall be provided in the agricultural department.
 - vi Adequate student locker, rest room and clean-up facilities shall be provided.
 - vii Tools and equipment shall be adequate to implement the instructional program and teaching objectives.
 - viii The agricultural advisory committee shall provide input regarding the updating of tools and equipment used for instruction.
 - ix Classroom equipment shall meet recommended state guidelines for effective instruction.
- e. Administration and Supervision.
- i A recommended student-teacher ratio shall be seventy-five(75) - one hundred(100) to one (1).
 - ii At the beginning of each school year, instructors shall submit to administrators a list of program activities that require school release time and travel.

